

Smart Documents

The Future of EBS for Construction

Background

- **Origin of Electronic Distribution of Bid Documents with Plans and Specs**

- **Tri-Services CADD/GIS Technology Center**

- Working Group**

- **US Army Corps of Engineers**
- **US Air Force**
- **US Navy**

Early Adopters in Government

- USACE - 1996 for projects on CD
Vice Presidential Hammer Award**
- USAF - Select bases in 1997;
enterprise wide in 1999 with FBO
Website**
- US Navy - CD distribution in 1997
and web based in 1998**

Early Adopters in Private Sector

- **Plan Room Operators '97-'98**
 - **Builders Exchange, Texas**
 - **Valley Construction News, Virginia**
 - **AGC Plan Room, Texas**
- **FW Dodge and CMD**
 - **CD distribution and new web services**
- **Project Management Services**

Who Benefits?

- **Owners**
 - Major time and cost savings
 - Wider distribution
 - Immediate amendment distribution
- **A/E firms**
 - Secure information distribution
- **Contractors and Suppliers**
 - 24/7 access saves time & costs

Early Technology Enablers

- **Drawings**
 - **Alternative to CAD needed**
 - **Group 4 TIFF open standard**
 - **CAL (TIFF superset) DOD standard**
 - **Scales accurately for printing and measuring**
- **Specs**
 - **Use original document formats;**
 - **Word, Word Perfect, Excel**
 - **Convert to PDF or TIFF**

Early Technology Enablers

- **SourceView introduced in 1996**
 - Large format viewer standard
 - Organized sets of drawing files
 - Limited tools for electronic takeoffs
- **Original word document viewers or PDF viewer for specs**

User Needs Not Met

- **Growing complexity of User Tools**
 - disparity between novice and sophisticated users
- **Need for information from CAD file**
- **Document security**
- **Information exchange between users**

Advanced Technology

- **All-in-one tool sets**
- **Multiple format support**
- **Enhanced on-line viewing**
- **Fast document creation**
- **Smart Document support**

Smart Documents - the Future

What are Smart Documents?

Documents that carry additional information and encoded keys that significantly enhance their usefulness to the recipient.

Smart Document Content

- **CAD Document Tools**
 - **CADD/GIS Technology Center project**
 - **XML output**
- **Annotated Document Layers**
 - **Takeoffs and markups**
 - **Individualized layers**

Smart Document Content

- **Digital Signatures**
 - Authentication
 - Document integrity
- **Document Feature Keys**
 - Software features turned on by document

Smart Document Benefits

- **Facilitates End-to-End EBS**
 - **Vital for project owners to get buy-in**
 - **Only way to gain full benefits from EBS**

Smart Document Benefits

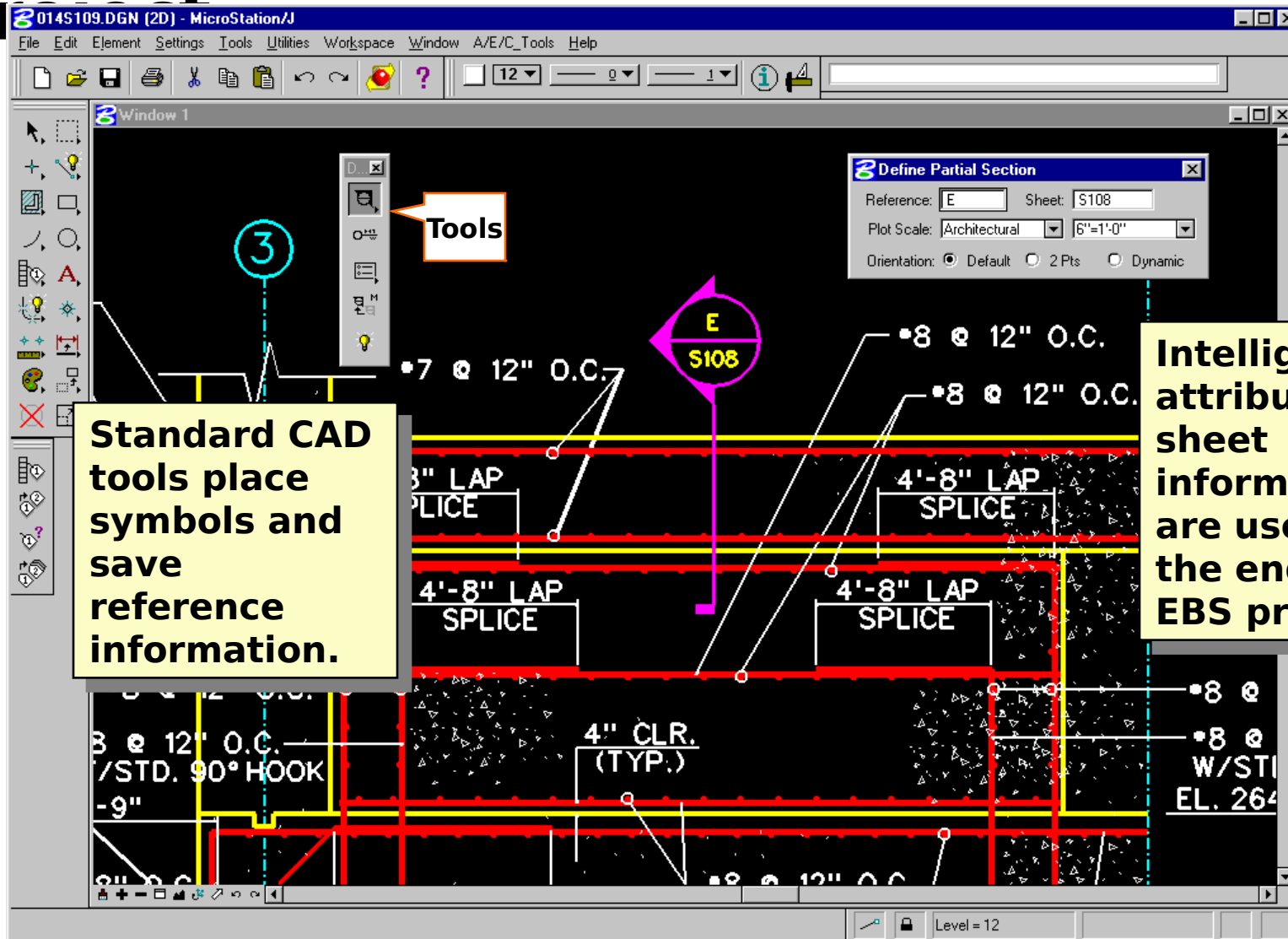
- **Promotes End-to-End buy-in with end users**
 - **more convenient than paper**
 - **easier to use**
 - **more useful than paper**

Implementati on

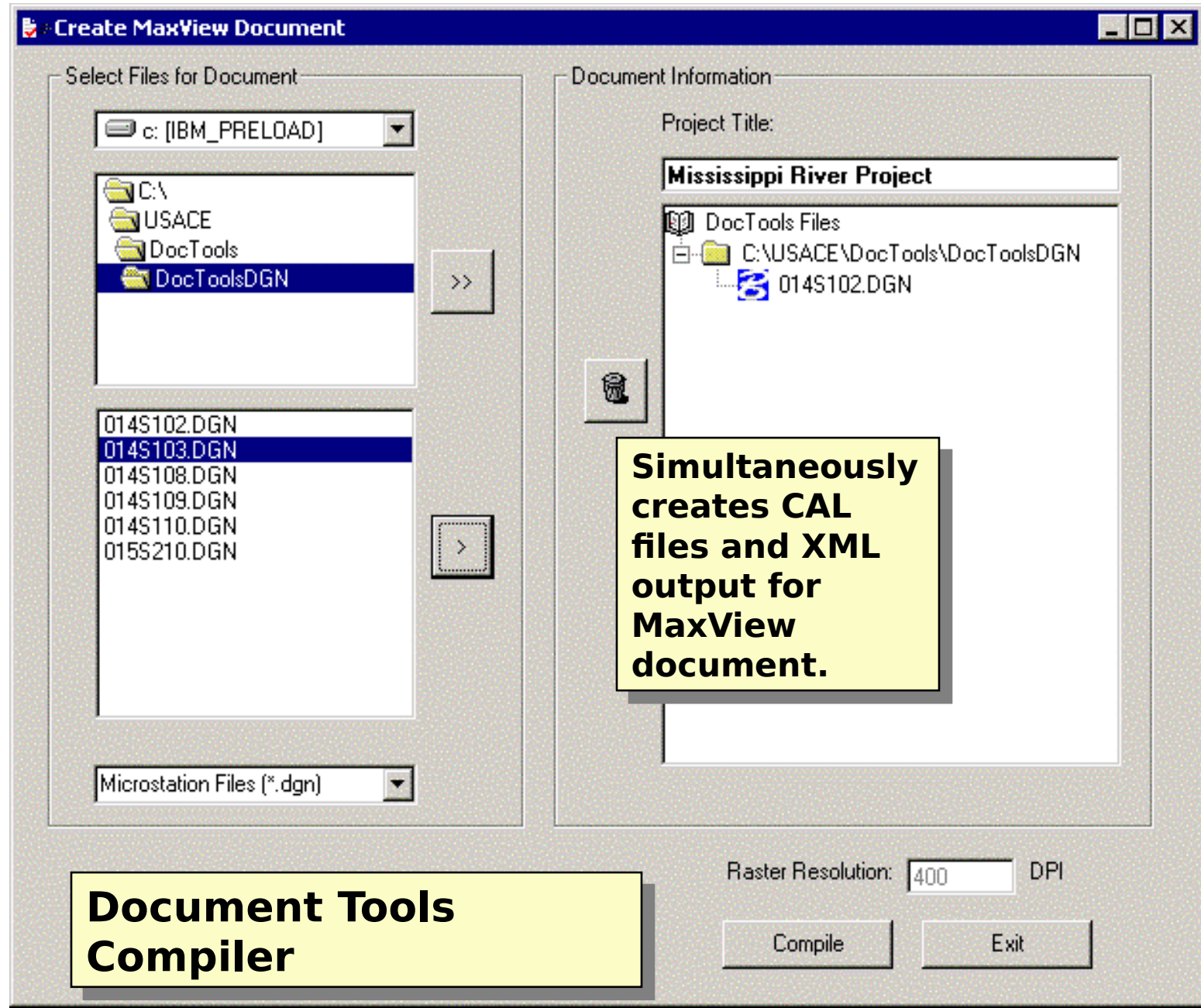
**Examples of how
MaxView has
implemented
Advanced
Technologies and
Smart Documents.**

Tri-Services CADD/GIS Document Tools

P



One Step Creates CAL Images & XML file



MaxView Document - XML

MaxView - [Mississippi River Project - 3. S103 Pumphouse Slab Plan]

File Edit View Tools Options Window Help

1/8" = 1' 1" = 8 Feet

Find Next

Mississippi River Project

- 1. Structural
 - 1.1. S102 Pumphouse Slab Plan
 - 1.2. S103 Pumphouse Slab Plan**
 - 1.3. S108 Slab Reinforcing Detail
 - 1.4. S109 Slab Reinforcing Detail
 - 1.5. S110 Slab Reinforcing Detail
 - 1.6. S210 Pump Station Walls

50'-2"

2'-6"

C S110

F S110

Z S110

C.J.

OPEN

Automatically creates hotspot link from CAD Section cut to Target detail.

Indexed Page List from CAD Sheet ID.

Indicates no defined target - QA tool

Advanced Annotation and Markup Tools

Show Filenames
☒ Folder Numbering

Pages Layers History

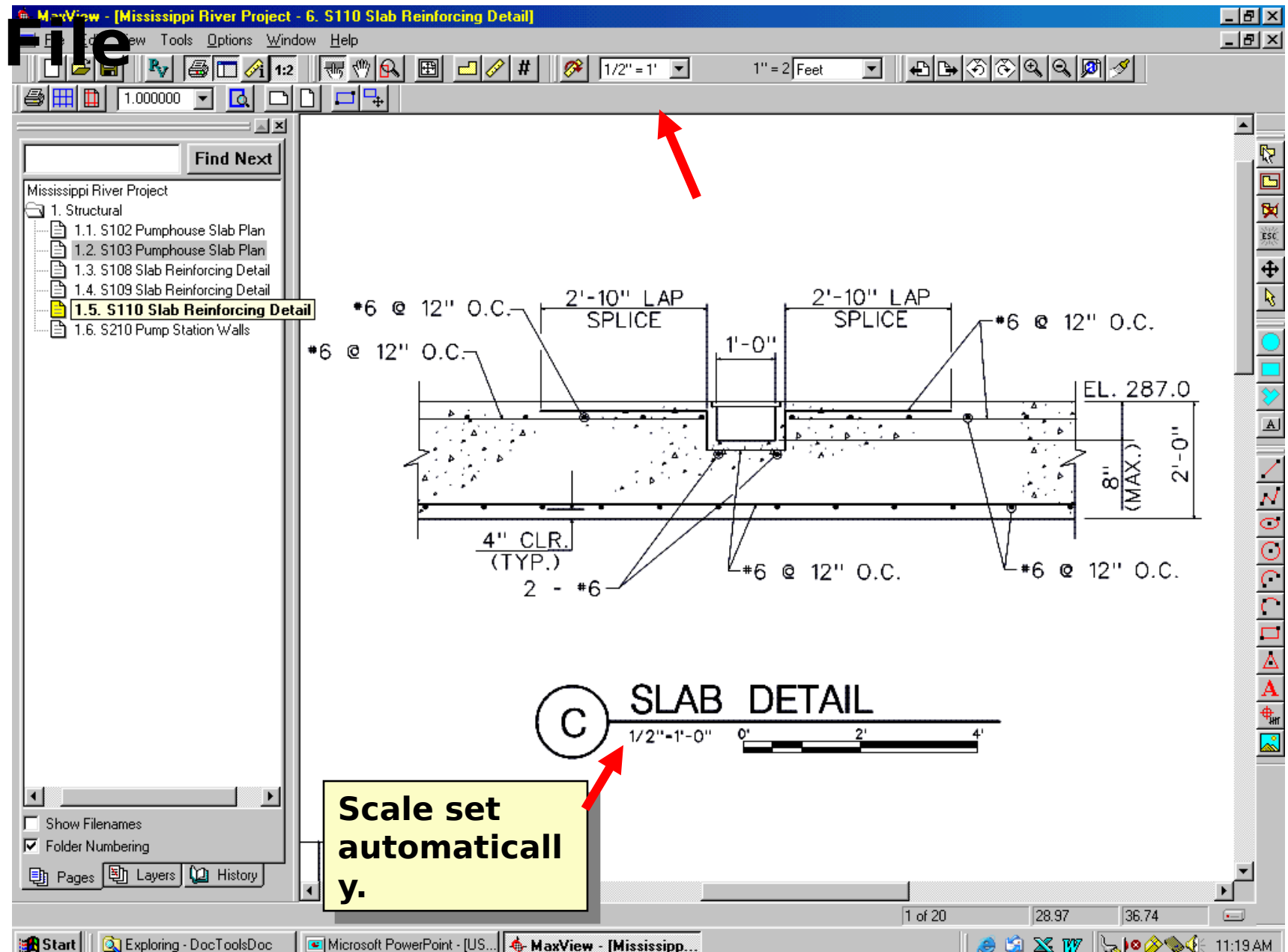
For Help, press F1

1 of 20 29.245 39.67

Start Exploring - DocToolsDoc Microsoft PowerPoint - [US... MaxView - [Mississipp...

11:17 AM

Scale Set From CAD



All-in-one Application

**Application is
Feature
Enabled to
desired level
for Customer
workstations**

Web Author

Author

MarkUp

TakeOff

Free Reader

**Licensing Key
Embedded in
Document by
Author or
Recipient**

Software Feature Enabling Key

MaxReader

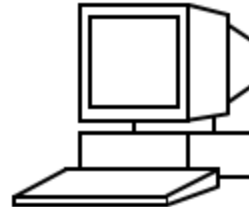


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System ID
12345678



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MaxMarkUp
Computer



A Feature Enabling
Key upgrades the
software to a more
advanced level.

Smart Document Keys

MaxView
Document



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MaxMarkUp
Document



The Document carries the Smart Key to turn-on software features on any workstation.

Smart Documents Today

- **Available now.**
- **Construction industry is ready.**
- **Critical for end-to-end EBS.**
- **Needs SPS originator support.**